Appendix G

Sprint Disaster Recovery Plan

Appendix G: Disaster Recovery Plan

Sprint's comprehensive Disaster Recovery Plan developed for WATRS details the methods Sprint will utilize to cope with specific disasters. The plan includes quick and reliable switching of calls, network diagrams identifying where traffic will be rerouted if vulnerable circuits become inoperable, and problem reporting with escalation protocol. Besides service outages, the WATRS Disaster Recovery Plan applies to specific disasters that affect any technical area of Sprint's Relay network.

The first line of defense against degradation of WATRS is the Intelligent Call Router (ICR) technology that Sprint employs. During a major or minor service disruption, the ICR feature bypasses the failed or degraded facility and immediately directs calls to the first available agent in any of Sprint's eleven fully inter-linked TRS Call Centers. State-specific call processing software resides at each of Sprint's Relay Call Centers. Communications Assistants (CAs) are trained in advance to provide service to other States; the transfer of calls between Centers is transparent to users.

Beyond the ICR, Sprint's Disaster Recovery Plan details the steps that will be taken to deal with any problem, and restore WATRS to its full operating level in the shortest possible time.

WATRS Notification Procedure

To provide WATRS with the most complete and timely information on problems affecting their TRS, the trouble reporting procedure for WATRS will include three levels of response:

- A 3-hour verbal report
- A 24-hour status report
- A comprehensive final report within 5 business days

Sprint will notify the WATRS Contract Administrator within three hours if a service disruption of 30 minutes or longer occurs. For service disruptions occurring outside normal business hours, the initial report will be provided by 8:30 AM on the next business day. This initial report will explain how the problem will be corrected and an approximate time when full service will be restored. Within 24 hours of the service disruption, an intermediate report provides problem status and more detail of what action is necessary. In most cases, the 24-hour report reveals that the problem has been corrected and that full service to WATRS has been restored. The final comprehensive written report, explaining how and when the problem occurred, corrective action taken, and time and date when full operation resumed will be provided to the WATRS Contract Administrator within five business days of return to normal operation. Examples of service disruption to WATRS include:

- ACD failure or malfunction
- Major transmission facility blockage
- Threat to Washington State CA's safety or other CA work stoppage
- Loss of CA position capabilities

Performance at each Sprint relay Center is monitored continuously 24 hours a day, seven days a week from Sprint's Enhanced Services Operation Control Center (ESOCC) in Overland Park, KS.

Disaster Recovery Procedures

If the problem is within the relay Center serving WATRS, maintenance can usually be performed by the on-site technician, with assistance from Sprint's ESOCC. If the problem occurs during non-business hours and requires on-site assistance, the ESOCC will page the technician to provide service remedies. Sprint retains hardware spares at each Center to allow for any type of repair required without ordering additional equipment (except for complete loss of a Center).

Time Frames for Service Restoration

Complete or Partial Loss of Service Due to Sprint Equipment or Facilities

- Sprint Call Center Equipment - A technician is on-site during the normal business day. The technician provides parts and / or resources necessary to expedite repair within two hours. Outside of the normal business day a technician will be on-site within four hours. The technician then provides parts and /or resources necessary to expedite repair within two hours.
- Sprint or Telco Network Facilities - For an outage of facilities directly serving WATRS, incoming TRS calls will immediately be routed to one of ten other Centers throughout the US. No calls will be lost. Repair of fiber or network facilities typically requires less than eight hours.
- Due to Utilities or Disaster at the Center - Immediate rerouting of traffic occurs with any large-scale Center disaster or utility failure. Service is restored as soon as the utility is restored, provided the Sprint equipment has not been damaged. If the equipment has been damaged the service restoration for Sprint equipment (above) applies.
- Due to Telco Facilities Equipment - A Telco equipment failure will not normally have a large effect on TRS traffic within the state unless it occurs on Telco facilities directly connected to the call Center. In this case, normal Sprint traffic rerouting will apply. For a failure at a telco central office - In (CITY), for example, only local (CITY) residents would be affected until the Telco has performed the necessary repairs. For situations like this, it will be at Sprint's discretion to dispatch a technician. The normal Telco escalation procedures will apply. The Telco escalation process is all during the normal business day; therefore, a trouble may be extended from one day to the next.

Trouble Reporting Procedures

The following information is required when a WATRS user is reporting trouble:

- Service Description ("WATRS")
- Caller's Name
- Contact Number
- Calling to/Calling from (if applicable)
- Description of the trouble

Service disruptions or anomalies that are identified by WATRS users may be reported to the Sprint Relay Customer Service 800 number (800-877-0996) at any time day or night, seven days a week. The Customer Service agent creates a trouble ticket and passes the information on to the appropriate member of Sprint's Maintenance Team for action. Outside the normal business day, the ESOCC will handle calls from the Customer Service agents 24 hours a day, 7 days a week.

The Maintenance Team recognizes most disruptions in service prior to customers being aware of any problem. Site technicians are on call at each of Sprint's11 TRS Call Centers to respond quickly to any event, including natural disasters.

Mean Time to Repair (MTTR)

MTTR is defined and detailed in Tables A-1 and A-2:

Table A-1 Time to Investigate + Time to Repair + Time to Notify

Time to Investigate	The time needed to determine the existence of a problem and its scope.
Time to Repair	Repair time by Field Operations plus LEC time, if applicable.
Time to Notify	From the time repair is completed to the time the customer is notified of repair completion.

Table A-2 Current MTTR Objectives

Switched Services	8 Hours
Private Lines	4 Hours (electronic failure)
Fiber Cut	8 Hours

Sprint's Mean Time to Repair is viewed from the customer's perspective. A critical element in the equation is the Time to Notify, because Sprint does not consider a repair complete until the customer accepts the circuit back as satisfactory.

Escalation Procedures

If adequate results have not been achieved within two hours, a WATRS user may escalate the report to the next level. Table A-3 details the escalation levels.

Table A-3 Escalation Levels

Escalation Level	Contact	Phone
2	Regional Maintenance Manager	Office Phone Number (913) 253-4394 Cell Phone Number Cell Phone 913-484-2263
3	Senior Manager, Technical Staff	Office Phone Number (913) 253-4396

Service Reliability

Sprint's service is provided through an all-fiber sophisticated management control networks support backbone networks with digital switching architecture that. These elements are combined to provide a highly reliable, proven, and redundant network. Survivability is a mandatory objective of the Sprint network design. The Sprint network minimizes the adverse effect of service interruptions due to equipment failures or cable cuts, network overload conditions, or regional catastrophes.

A 100 percent fiber-optic network, with significant fiber miles in Washington, provides critical advantages over the other carriers. These advantages include:

- Quality

  Since voice or data are transmitted utilizing fiber optic technology, the problems of outdated analog and even modern microwave transmission simply do not apply. Noise, electrical interference, weather-impacting conditions, and fading are virtually eliminated.

- Economy

  The overall quality, architecture, and advanced technology of digital fiber optics makes transmission so dependable that it costs us less to maintain, thereby passing the savings onto our customers.

- Expandability

  As demand for network capacity grows, the capacity of the existing single-mode fiber can grow. Due to the architecture and design of fiber optics, the capacity of the network can be upgraded to increase 2,000-fold.

- Survivability

  Network survivability is the ability of the network to cope with random disruptions of facilities and/or demand overloads. Sprint has established an objective to provide 100 percent capability to reroute backbone traffic during any single cable cut. This is a significant benefit to WATRS, and a competitive differentiation of the Sprint network.

Currently, Sprint has over 23,000 miles of its fiber network in place and in service, with a fiber point of presence (POP) in every Local Access Transport Area (LATA). The 2 LATAs in Washington are served by 10 Sprint POPs. There are plans for additional fiber mileage, additional POPs, and added route diversity. There are more than 300 POPs in service on the network. With 10 POPs in the state, all areas will be adequately serviced by Sprint.

Switched services are provided via 49 Northern Telecom DMS-250/300 switches at 29 locations nationwide. Three DMS-300s located at New York, NY; Fort Worth, TX; and Stockton, CA, serve as international gateways. The remaining 46 switches provide switching functions for Sprint's domestic switched services. Washington would primarily be served by the DMS switches in Bellingham, Olympia, Pasco, Seattle, Spokane, Tacoma, and Vancouver, Washington with other diversely located facilities also serving Washington.

Interconnection of the 49 switches is provided in a non-hierarchical manner. This means that inter-machine trunk (IMT) groups connect each switch with all other switches within the network. Each of these IMT groups is split and routed through the Sprint fiber network over SONET route paths for protection and survivability. As an extra precaution to preclude any call blockage, Dynamically Controlled Routing (DCR) provides an additional layer of tandem routing options when a direct IMT is temporarily busy.

Reliability is ensured through a corporate commitment to maintain or surpass our system objectives. Beginning with the network design, reliability and efficiency are built into the system. Sprint continues to improve the network's reliability through the addition of new technologies such as Digital Cross-connect Systems, SONET, and Signaling System 7.

The effectiveness of this highly reliable and survivable network is attributed to the redundant transmission and switching hardware configurations, SONET ring topology, and sophisticated network management and control Centers. These factors combine to assure outstanding network performance and reliability for Washington.

Network Criteria

System Capacity

The Sprint network was built with the capacity to support every interLATA and intraLATA call available in the US. With the continuing development of network fiber transmission equipment to support higher speeds and larger bandwidth, the capacity of the Sprint network to support increasing customer requirements and technologies is assured well into the future.

Sprint Outage Notification from *CapTel* Service Center

Performance at the *CapTel* Service Center is monitored continuously by CTI technicians 24 hours a day, seven days a week. Sprint will be notified by the *CapTel* Service Center Manager immediately upon determination of any type of natural or man-made problem that causes either:

- A complete (100 percent) loss of the *CapTel* Service Center, OR
- Any partial loss of service in excess of 15 minutes that is service affecting. Examples of such a loss in service include:
  - An accidental switch rebooting
  - Loss of transmission facilities through the telephone network
  - Terrorist attack
  - Bomb threat or other work stoppage
  - Sudden loss of agent position capabilities.
  - Impact to minimum ASA / Speed of Answer times
  - Acts of God

Contact from the *CapTel* Service Center Manager or designated CTI contact person will be made to the assigned contact people at Sprint immediately upon awareness of an outage meeting the above criteria, 24 hours a day, seven days a week including holidays with the following documentation:

1) What time did the outage happen in CENTRAL TIME?
2) What caused it?
3) Which customers are (or were) impacted?
4) What is (was) the solution to restore service?
5) What is the time that service will be (or was restored by) IN CENTRAL TIME?

Sprint Procedure for Outage Notification to Contract Administrators during Business Hours

Upon receiving notification from CTI during business hours (8AM to 5PM CT), Sprint will have one of the below managers contact the Contract Administrator, depending on availability:

	Point of Contact (POC)	Position	Contact Information:
1	John Moore	Relay Program Management Mgr	P: (925) 468-4345 M: (925) 895-9176 E: John.E.Moore@sprint.com
2	Angela Officer	Relay Program Manager	P: (703) 689-5654 E: Angela.Officer@sprint.com
3	Assigned On-Call Relay Program Manager	Relay Program Manager	Assigned as necessary

Upon receiving notification from CTI, Sprint will assess the problem and contact will be made by email to the Contract Administrator.

In cases of partial loss of service, such as several inoperable CA positions or, local area network outages, the *CapTel* Center on-site technician will notify *CapTel* Service Center to schedule repair. Only those partial losses of service that are service affecting in excess of 15 minutes will be email to the state Contract Administrator.

If the problem is within the *CapTel* Center, maintenance can usually be performed by the on-site technicians. Hardware spares are retailed at the *CapTel* Service center to allow for the most common type of repair required without the ordering of additional equipment.

Sprint Procedure for Outage Notification to Contract Administrators outside of Business Hours

Upon receiving notification from CTI outside of business hours (5PM to 8AM CT, Monday through Friday, and all day Saturday, Sunday and holidays), John Moore (or Angie Officer) will notify Contract Administrators immediately by email of an outage if possible, but by no later than 8AM CT the next business day. Follow-ups and post-mortem will still be provided within the required guidelines.

Disaster Recovery Follow-Up

Upon notifying customers of an outage, Sprint's contact person will provide regular updates from CTI to all customers and internal team members. The follow up will be kept in sync with CapTel Customer Service so that the information shared with customers from CTI is the same as what customers receive from Sprint.

Disaster Recovery Post-mortem documentation

72 hours (3 days) after the outage is resolved, CTI will need to provide a formal written analysis of the outage to the designated Sprint people (outlined above).

Sprint will send a document with the analysis to the Contract Administrator. John Moore will be the primary point of contact for the letter to be shared with customers. If John Moore is not available, then Angie Officer will provide the letter directly to customers.

1) What time did the outage happen in CENTRAL TIME?
2) What caused it?
3) Which customers are or were impacted?
4) What is the solution to restore service?
5) What is the time that service will be or was restored IN CENTRAL TIME?
6) What will *CapTel*, Inc do to prevent this from happening again?

CTI will be available to answer questions from Contract Administrators through Sprint.

Time Frames for Service Restoration

Complete loss of service due to equipment -

- Normal business day – A technician is on site during the normal business day. The technician will provide parts and/or resources necessary to expedite repair of the most common problems within two (2) hours.

- Outside of the normal business day – A technician will be on-site within four (4) hours. The technician will then provide parts and/or resources necessary to expedite repair of the most common problems within two (2) hours.

Due to Utilities or Disaster at the Center – Service will be restored as soon as the utility is restored provided the equipment was not damaged. If the equipment was damaged then refer to the timing in the statement previous (Due to Equipment).

Due to Telco Facilities Equipment – A technician will be dispatched as necessary. The normal Telco escalation procedures for a partial outage will apply:

- Two hours at first level
- Four hours at second level
- Eight hours at third level

These hours of escalation are all during the normal business day, so a trouble ticket may be extended from one day to the next.

Partial loss of service – Due to Equipment

- Normal business day – A technician is on site during normal business hours. The technician will provide parts and/or resources necessary to expedite repair of the most common problems within four (4) hours.

- Outside of the normal business day – A technician will be on-site within eight (8) hours. The technician will then provide parts and/or resources necessary to expedite repair of the most common problems within four (4) hours.

Due to Position Equipment – A technician will be on-site within eight (8) hours, provided there are not enough positions working to process the forecasted traffic volumes. The technician will provide parts and/or resources necessary to expedite repair within 48 hours. If there are enough positions functional to process the forecasted traffic, the equipment will be repaired as necessary by Sprint.

Due to Telco Facilities Equipment – A technician will be dispatched as necessary by Sprint. The normal Telco escalation procedures for a partial outage will apply:

- Eight hours at first level

- Twenty-four hours at second level

These hours of Telco escalation are all during the normal business day, so a service request may be extended from one day to the next.

Trouble Reporting Procedures (for Individual Customers to Customer Service)

All calls concerning customer service issues should be placed by dialing the *CapTel* Customer Service at 1-888-269-7477 (800-482-2424 TTY) in English only. A Customer Service agent will take information concerning:

- Caller's Name
- Contact Number
- Calling to / Calling from (if applicable)
- Description of the trouble

Report service affecting trouble to Customer Service during normal business hours, 8:00 AM to 5:00 PM Central Time, Monday through Friday. Normal business hours do not include Saturday, Sunday, and holidays.

Escalations of service affecting issues during normal business hours are followed below:

Level	Escalation Procedure during business hours	Point of Contact (POC)	Phone Number
1	CapTel Customer Service	Customer Service Agent	(888) 269-7477 captel@captelmail.com
2	CapTel Customer Service Supervisor	Pam Holmes	(888)-269-7477 Pam.Holmes@captelmail.com
3	Captioned Telephone Inc.'s (CTI) Call Center Director	Pam Frazier Call Center Director	(877) 437-4660 Pam.Frazier@captelmail.com

Table 4 – CapTel Customer Service Escalation Procedures

Hours outside the normal business day are 5:00 PM to 8:00 AM Central Time for every day of the week (Monday through Friday), and all day Saturday, Sunday, and holidays. Outside of normal business day hours, a recording will play and trouble calls can leave a message for customer service to follow up during the next business day.

The recording played to customers outside of CapTel customer service business hours:

> Thank you for calling CapTel customer service. Our hours are Monday through Friday from 8AM to 5PM central time. You may try again during business hours or leave a voice mail message by pressing 3 now.

If the "3" button is pressed, then the customer will hear the following message:

> Thank you for calling CapTel customer service. We are unable to take your call at this time. Please leave a detailed message with your name and phone number with area

code, or email address, and a reason for your call, and one of our representatives will return your call as soon as possible.

Alternative usage for CapTel phone during outage for VCO Users.

CapTel phones are equipped with the capability to connect to traditional relay services even in the event that the captioning service is not available.

In the event that a user cannot reach the captioning Center, and the user desires to use any form of available relay to connect their call, the user can dial 711 (user must dial only 711 and not a relay 800 number in order to change to VCO mode) and be connected to the in-state relay call Center. Their call will be processed via VCO instead of captions. In VCO mode, no audio from the called party will be processed – just like any other traditional VCO call.